methods of vessel control, which may be particularly important in patients with calcified distal vessels.

Cost-effectiveness of Vascular Access for Haemodialysis: Arteriovenous Fistulas Versus Arteriovenous Grafts

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Background: The use of an arteriovenous fistula (AVF) for haemodialysis treatment may be associated with a high early failure rate, but usually good long-term patency, while using an arteriovenous graft (AVG) yields a lower early failure rate with worse long-term patency. The aim of this study was to calculate and compare the costs and outcome of AVF and AVG surgery in terms of early and long-term patencies.

Methods: A decision tree and a Markov model were constructed to calculate costs and performance of AVFs and AVGs. The model was populated with a retrospective cohort of HD patients receiving their first VA. The outcomes were determined probabilistically with a 5-year follow-up.

Results: AVFs were usable for a mean (95% CI) of 28.5 months (24.6–32.5 months), while AVGs showed a patency of 25.5 months (20.0–31.2 months). The use of AVFs was the dominant type of VA and €631 could be saved per patient/per month patency compared to AVG use. Regardless of the willingness to pay, the use of AVFs yielded a higher probability of being cost-effective compared to AVGs.

Conclusions: AVFs are more cost-effective than AVGs. Nonetheless, early failure rates significantly influence AVF performance and initiatives to reduce early failure can improve its cost-effectiveness.